REMARKS

This is a full and timely response to the Final Office Action mailed by the U.S. Patent and Trademark Office on August 24, 2007. Upon entry of the foregoing amendments, claims 1 – 5 and 7 - 18 remain pending in the present application. Claims 1, 2, 5, 7, 9, 11, 13 and 15 have been amended. Claims 6 and 10 have been canceled. The subject matter of amended claims 1, 2, 5, 7, 9, 11, 13 and 15 is supported in at least figures 1 – 4 and the related detailed description of the Applicant's original specification. Accordingly, no new matter is added to the present application. In light of the foregoing amendments and following remarks, Applicant requests reconsideration of the application and pending claims.

I. Response to 35 U.S.C. § 103 Rejections – Claims 1, 5, 9 and 10

A. Statement of the Rejections

Claims 1, 5, 9 and 10 presently stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2004/0235445A1 to Gomez (hereafter *Gomez*) in view of U.S. Patent No. 6,285,865 to Vorenkamp *et al.* (hereafter *Vorenkamp*).

B. Discussion of the Rejections

Applicant has canceled dependent claim 10. Accordingly, the rejection of claim 10 is rendered moot.

Applicant respectfully submits that independent claims 1, 5 and 9, as amended, are separately patentable for at least the reason that the cited references (alone or in combination) fail to disclose, teach, or suggest each feature in the amended claims.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the

prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Accordingly, the prior art must properly disclose, teach or suggest each element of the claimed invention.

1. <u>Claim 1</u>

Concerning Applicant's claim 1, the proposed combination of *Gomez* and *Vorenkamp* fails to disclose, teach, or suggest Applicant's claimed method for filtering a received signal in a wireless receiver that includes at least "inverting the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier."

Gomez (FIG. 3) apparently discloses a bank of programmable tracking filters 311 inserted at the output of a low-noise amplifier 301 that receives a radio-frequency (RF) input signal. The programmable tracking filters 311 suppress RF noise at harmonics of the phase-locked loop 305. The phase-locked loop 305 outputs a waveform to mixer 302a and to a 90° phase shifter 304, which outputs a shifted waveform to mixer 302b. The outputs of the mixers 302a, 302b are fed into respective low-pass filters 306a, 306b. The low-pass filters output their filtered signals to variable gain amplifiers (VGAs) 308a, 308b, respectively. The VGAs output the I and Q quadrature components of the received RF signal. Accordingly, *Gomez* discloses RF tracking filters for a direct conversion receiver.

Missing from *Gomez*, is any teaching or suggestion to apply a multiple-stage baseband filter chain that is arranged to invert "the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier." The Office Action acknowledges that *Gomez* "does not specifically disclose wherein

the method for filter the received signal includes inverting the impedance of the received signal in the filter chain using an active circuit to simulate inductance applied at the output of the amplifier." (See Office Action, item 3, first paragraph.)

In an effort to remedy the failure of *Gomez* to disclose, teach or suggest all claim features, the Office Action alleges that *Vorenkamp* (FIG. 52) discloses a gyrator circuit implemented to replace inductor-capacitor circuits.

However, the gyrator or LC filter 5212 illustrated in FIG. 52 of *Vorenkamp*, fails to disclose, teach or suggest a multiple-stage baseband filter chain that is arranged to invert "the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier."

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second intermediate frequency (IF) stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Missing from *Vorenkamp*, is any teaching or suggestion to apply a multiple-stage baseband filter chain that is arranged to invert "the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier."

Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's amended claim 1, as amended. Consequently, Applicant submits independent claim 1, as amended, is allowable over the proposed combination and respectfully requests that the rejection of claim 1 be withdrawn.

2. **Claim 5**

Concerning Applicant's claim 5, the proposed combination of *Gomez* and *Vorenkamp* fails to disclose, teach, or suggest Applicant's claimed low-noise baseband filter that includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier; and a bi-quad filter coupled to the output of the impedance inverter."

Gomez (FIG. 3), as shown above, apparently discloses RF tracking filters for a direct conversion receiver.

Missing from *Gomez*, is any teaching or suggestion to apply low-noise baseband filter that includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier." The Office Action acknowledges that *Gomez* "does not specifically disclose wherein an active circuit simulates an inductance at the output of the amplifier." (See Office Action, page 4, line 1.)

In an effort to remedy the failure of *Gomez* to disclose, teach or suggest all claim features, the Office Action alleges that *Vorenkamp* (FIG. 52) discloses a gyrator circuit implemented to replace inductor-capacitor circuits.

However, the gyrator or LC filter 5212 illustrated in FIG. 52 of *Vorenkamp*, fails to disclose, teach or suggest a low-noise baseband filter that includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first

transconductance amplifier, the feedback path including a second transconductance amplifier; and a bi-quad filter coupled to the output of the impedance inverter."

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second IF stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Missing from *Vorenkamp*, is any teaching or suggestion to apply a low-noise baseband filter that includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier; and a bi-quad filter coupled to the output of the impedance inverter."

Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's amended claim 5, as amended. Consequently, Applicant submits independent claim 5, as amended, is allowable over the proposed combination and respectfully requests that the rejection of claim 5 be withdrawn.

3. <u>Claim 9</u>

Concerning Applicant's claim 9, the proposed combination of *Gomez* and *Vorenkamp* fails to disclose, teach, or suggest Applicant's claimed portable transceiver having a direct conversion receiver that includes at least "a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier."

Gomez (FIG. 3), as shown above, apparently discloses RF tracking filters for a direct conversion receiver.

Missing from *Gomez*, is any teaching or suggestion to apply a direct conversion receiver that includes at least "a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier." The Office Action acknowledges that *Gomez* "does not specifically disclose wherein an active circuit simulates an inductance at the output of the amplifier." (See Office Action, page 4, third paragraph.)

In an effort to remedy the failure of *Gomez* to disclose, teach or suggest all claim features, the Office Action alleges that *Vorenkamp* (FIG. 52) discloses a gyrator circuit implemented to replace inductor-capacitor circuits.

However, the gyrator or LC filter 5212 illustrated in FIG. 52 of *Vorenkamp*, fails to disclose, teach or suggest a direct conversion receiver that includes at least "a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier."

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second IF stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Missing from *Vorenkamp*, is any teaching or suggestion to apply a direct conversion receiver that includes at least "a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier."

Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's amended claim 9, as amended. Consequently, Applicant submits

independent claim 9, as amended, is allowable over the proposed combination and respectfully requests that the rejection of claim 9 be withdrawn.

II. Response to 35 U.S.C. § 103 Rejections – Claims 2-4, 11 and 12

A. Statement of the Rejections

Claims 2-4, 11 and 12 presently stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gomez* in view of *Vorenkamp* and further in view of U.S. Patent No. 4,290,036 to Moulding *et al.* (hereafter *Moulding*).

B. Discussion of the Rejections

Applicant's claims 2-4 depend directly or indirectly from amended claim 1. *Moulding* fails to remedy the failure of *Gomez* and *Vorenkamp* to disclose, teach, or suggest Applicant's claimed method for filtering a received signal in a wireless receiver that includes at least "inverting the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier."

Gomez (FIG. 3) apparently discloses a bank of programmable tracking filters 311 inserted at the output of a low-noise amplifier 301 that receives a radio-frequency (RF) input signal. The programmable tracking filters 311 suppress RF noise at harmonics of the phase-locked loop 305. The phase-locked loop 305 outputs a waveform to mixer 302a and to a 90° phase shifter 304, which outputs a shifted waveform to mixer 302b. The outputs of the mixers 302a, 302b are fed into respective low-pass filters 306a, 306b. The low-pass filters output their filtered signals to variable gain amplifiers (VGAs) 308a, 308b, respectively. The VGAs output the I and Q quadrature components of the received RF signal. Accordingly, *Gomez* discloses RF tracking filters for a direct conversion receiver.

The Office Action acknowledges that *Gomez* "does not specifically disclose wherein the method for filter the received signal includes inverting the impedance of the received signal in

the filter chain using an active circuit to simulate inductance applied at the output of the amplifier." (See Office Action, item 3, first paragraph.)

In an effort to remedy the failure of *Gomez* to disclose, teach or suggest all claim features, the Office Action alleges that *Vorenkamp* (FIG. 52) discloses a gyrator circuit implemented to replace inductor-capacitor circuits.

However, the gyrator or LC filter 5212 illustrated in FIG. 52 of *Vorenkamp*, fails to disclose, teach or suggest a multiple-stage baseband filter chain that is arranged to invert "the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier."

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second intermediate frequency (IF) stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Moulding apparently discloses a filter circuit where a reactance is simulated by a voltage amplifier. The input of the voltage amplifier is connected across a reactive element. The output of the voltage amplifier is connected in series with the same element, thereby enabling a series arrangement of a pair of inductances to be simulated by a capacitively-loaded gyrator and an amplifier. The circuit is suitable as a sound trap in a television receiver.

Missing from the proposed combination of *Gomez*, *Vorenkamp* and *Moulding* is any teaching or suggestion to apply a multiple-stage baseband filter chain that is arranged to invert "the impedance of the received baseband signal in a first stage of a multiple-stage baseband filter chain using an inductance applied at an output of a first stage variable gain amplifier, the baseband filter chain arranged such that a feedback path is located between an output of a transconductance amplifier and an input of the transconductance amplifier."

Gomez teaches RF tracking filters. *Vorenkamp* teaches IF bandpass filters. *Moulding* teaches a capacitively-loaded gyrator. The proposed combination does not disclose, teach or suggest Applicant's claimed multiple-stage baseband filter chain. Thus, the proposed

combination fails to establish a *prima facie* case of obviousness with respect to Applicant's dependent claims 2-4. Consequently, Applicant submits dependent claims 2-4 are allowable over the proposed combination and respectfully requests that the rejection of claims 2-4 be withdrawn.

Applicant's claims 11 and 12 depend directly or indirectly from amended claim 9. *Moulding* fails to remedy the failure of *Gomez* and *Vorenkamp* to disclose, teach, or suggest Applicant's claimed portable transceiver having a direct conversion receiver that includes at least "a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier."

Missing from the proposed combination of *Gomez*, *Vorenkamp* and *Moulding* is any teaching or suggestion to apply a direct conversion receiver that includes at least "a baseband filter chain including an amplifier, a bi-quad filter and an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback path located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier."

Gomez teaches RF tracking filters. *Vorenkamp* teaches IF bandpass filters. *Moulding* teaches a capacitively-loaded gyrator. The proposed combination does not disclose, teach or suggest Applicant's claimed portable transceiver. Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's dependent claims 11 and 12. Consequently, Applicant submits dependent claims 11 and 12 are allowable over the proposed combination and respectfully requests that the rejection of claims 11 and 12 be withdrawn.

III. Response to 35 U.S.C. § 103 Rejections – Claims 7 and 8

A. Statement of the Rejections

Claims 7 and 8 presently stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gomez* in view of *Vorenkamp* and further in view of U.S. Patent No. 6,026,286 to Long (hereafter *Long*).

B. Discussion of the Rejections

Applicant's claims 7 and 8 depend directly or indirectly from amended claim 5. *Long* fails to remedy the failure of *Gomez* and *Vorenkamp* to disclose, teach, or suggest Applicant's claimed low-noise baseband filter for a wireless receiver that includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier; and a bi-quad filter coupled to the output of the impedance inverter."

Gomez (FIG. 3) apparently discloses RF tracking filters for a direct conversion receiver.

The Office Action acknowledges that *Gomez* "does not specifically disclose wherein the method for filter the received signal includes inverting the impedance of the received signal in the filter chain using an active circuit to simulate inductance applied at the output of the amplifier." (See Office Action, item 3, first paragraph.)

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second intermediate frequency (IF) stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Long apparently discloses a low-voltage silicon bipolar RF receiver front end that includes a low noise preamplifier and a double-balanced mixer. The *Long* reference is added to the combination of *Gomez* and *Vorenkamp* for the alleged disclosure of inductors coupled to the

output of the amplifier to perform impedance matching. (See Office Action, page 7, last paragraph).

Missing from the proposed combination of *Gomez*, *Vorenkamp* and *Long* is any teaching or suggestion to apply a low-noise baseband filter for a wireless receiver that includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received baseband signal to a capacitance, the impedance inverter arranged such that a feedback path is located between an output of a first transconductance amplifier and an input of the first transconductance amplifier, the feedback path including a second transconductance amplifier; and a bi-quad filter coupled to the output of the impedance inverter."

Gomez teaches RF tracking filters. *Vorenkamp* teaches IF bandpass filters. *Long* teaches a low-power RF receiver with a double-balanced mixer. The proposed combination does not disclose, teach or suggest Applicant's claimed low-noise baseband filter for a wireless receiver. Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's dependent claims 7 and 8. Consequently, Applicant submits dependent claims 7 and 8 are allowable over the proposed combination and respectfully requests that the rejection of claims 7 and 8 be withdrawn.

IV. Response to 35 U.S.C. § 103 Rejections – Claim 13

A. Statement of the Rejection

Claim 13 presently stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,906,584 to Moffat *et al.* (hereafter Moffat) in view of *Gomez* and further in view of *Vorenkamp*.

B. Discussion of the Rejection

Applicant's independent claim 13, as amended, includes at least one element that is not disclosed, taught nor suggested by the proposed combination. Specifically, the proposed combination fails to disclose, teach, or suggest Applicant's claimed portable transceiver including at least "means for inverting the impedance of the received baseband signal at the output of the

means for amplifying in a first stage of a multiple-stage baseband filter chain to transform inductance applied to the received baseband signal to a capacitance, the means for inverting the impedance having a feedback path that bypasses the means for amplifying."

Moffat apparently discloses a switchable gain amplifier having a high-pass filter pole.

The Office Action acknowledges that *Moffat* "does not specifically disclose wherein and means for inverting the impedance of the received signal to a capacitance, the means for inverting the impedance having a feedback loop that bypasses the amplifying means, the means for inverting including an active circuit that simulates an inductance at the output at the output of the mans for amplifying." (See Office Action, item 6, first paragraph.)

Gomez (FIG. 3) apparently discloses RF tracking filters for a direct conversion receiver.

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second intermediate frequency (IF) stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Missing from the proposed combination of *Moffat*, *Gomez and Vorenkamp* is any teaching or suggestion that includes at least "means for inverting the impedance of the received baseband signal at the output of the means for amplifying in a first stage of a multiple-stage baseband filter chain to transform inductance applied to the received baseband signal to a capacitance, the means for inverting the impedance having a feedback path that bypasses the means for amplifying."

Gomez teaches RF tracking filters. *Vorenkamp* teaches IF bandpass filters. *Moffat* teaches a switchable gain amplifier having a high-pass filter pole. The proposed combination does not disclose, teach or suggest Applicant's claimed portable transceiver. Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's independent claim 13. Consequently, Applicant submits independent claim 13 is allowable over the proposed combination and respectfully requests that the rejection of claim 13 be withdrawn.

V. Response to 35 U.S.C. § 103 Rejections – Claim 14

A. Statement of the Rejection

Claim 14 presently stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Moffat*, *Gomez* and *Vorenkamp* in further view of *Moulding*.

B. Discussion of the Rejection

Applicant's dependent claim 14 includes at least one element that is not disclosed, taught nor suggested by the proposed combination. Specifically, the proposed combination fails to disclose, teach, or suggest Applicant's claimed portable transceiver including at least "means for inverting the impedance of the received baseband signal at the output of the means for amplifying in a first stage of a multiple-stage baseband filter chain to transform inductance applied to the received baseband signal to a capacitance, the means for inverting the impedance having a feedback path that bypasses the means for amplifying."

Moffat apparently discloses a switchable gain amplifier having a high-pass filter pole.

The Office Action acknowledges that *Moffat* "does not specifically disclose wherein and means for inverting the impedance of the received signal to a capacitance, the means for inverting the impedance having a feedback loop that bypasses the amplifying means, the means for inverting including an active circuit that simulates an inductance at the output at the output of the mans for amplifying." (See Office Action, item 6, first paragraph.)

Gomez (FIG. 3) apparently discloses RF tracking filters for a direct conversion receiver.

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second intermediate frequency (IF) stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Moulding apparently discloses a filter circuit where a reactance is simulated by a voltage amplifier. The input of the voltage amplifier is connected across a reactive element. The output of the voltage amplifier is connected in series with the same element, thereby enabling a series arrangement of a pair of inductances to be simulated by a capacitively-loaded gyrator and an amplifier. The circuit is suitable as a sound trap in a television receiver.

Missing from the proposed combination is any teaching or suggestion that includes at least "means for inverting the impedance of the received baseband signal at the output of the means for amplifying in a first stage of a multiple-stage baseband filter chain to transform inductance applied to the received baseband signal to a capacitance, the means for inverting the impedance having a feedback path that bypasses the means for amplifying."

Gomez teaches RF tracking filters. *Vorenkamp* teaches IF bandpass filters. *Moffat* teaches a switchable gain amplifier having a high-pass filter pole. *Moulding* teaches a capacitively-loaded gyrator. The proposed combination does not disclose, teach or suggest Applicant's claimed portable transceiver. Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's dependent claim 14. Consequently, Applicant submits dependent claim 14 is allowable over the proposed combination and respectfully requests that the rejection of claim 14 be withdrawn.

VI. Response to 35 U.S.C. § 103 Rejections – Claims 15-18

A. Statement of the Rejection

Claims 15-18 presently stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,184,747 to Helgeson *et al.* (hereafter *Helgeson*) in view of *Vorenkamp*.

B. Discussion of the Rejection

Applicant's independent claim 15, as amended, includes at least one element that is not disclosed, taught nor suggested by the proposed combination. Specifically, the proposed combination fails to disclose, teach, or suggest Applicant's claimed portable transceiver including at least "a gyrator-generated inductance applied at the output of the variable gain amplifier in a first stage of a multiple-stage baseband filter chain, the gyrator-generated inductance configured to transform inductance present at the output of the variable gain amplifier to a capacitance, the gyrator-generated inductance and the variable gain amplifier arranged such that the amplified baseband signal is not applied at an input of the variable gain amplifier, the gyrator-generated

inductance implemented via a first transconductance amplifier having differential inputs and a second transconductance amplifier having a single input."

Helgeson (FIG. 2) apparently discloses a system for removing direct current offset from a received signal.

The Office Action acknowledges that *Helgeson* "does not specifically disclose wherein the amplifier is a variable gain amplifier, wherein the gyrator-generated inductance shunts excess DC current present at the output of the variable gain amplifier to ground." (See Office Action, item 8, first paragraph, page 11.)

Vorenkamp (FIG. 52) apparently discloses an embodiment of a circuit for on-chip filter tuning. The circuit includes a second intermediate frequency (IF) stage 5206 having a gyrator or LC filter 5212 that includes a series of bandpass filters.

Missing from the proposed combination is any teaching or suggestion that includes at least "a gyrator-generated inductance applied at the output of the variable gain amplifier in a first stage of a multiple-stage baseband filter chain, the gyrator-generated inductance configured to transform inductance present at the output of the variable gain amplifier to a capacitance, the gyrator-generated inductance and the variable gain amplifier arranged such that the amplified baseband signal is not applied at an input of the variable gain amplifier, the gyrator-generated inductance implemented via a first transconductance amplifier having differential inputs and a second transconductance amplifier having a single input."

Vorenkamp teaches IF bandpass filters. *Helgeson* (FIG. 2) teaches a circuit with gyratorz 306I and gyratorz 306Q in respective baseband filters. However, the proposed combination does not disclose, teach or suggest Applicant's claimed portable transceiver, which includes, "gyrator-generated inductance implemented via a first transconductance amplifier having differential inputs and a second transconductance amplifier having a single input." Thus, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's independent claim 15. Consequently, Applicant submits independent claim 15 is allowable over the proposed combination and respectfully requests that the rejection of claim 15 be withdrawn.

Because independent claim 15 is allowable, dependent claims 16-18, which depend directly or indirectly from claim 15, are also allowable. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Accordingly, Applicant respectfully requests that the rejection of claims 16-18 also be withdrawn.

CONCLUSION

In summary, Applicant respectfully requests that all outstanding claim rejections be withdrawn. Applicant respectfully submits that presently pending claims 1-5, 7-9 and 11-18 are allowable and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comment regarding the Applicant's response or believe that a teleconference would expedite prosecution of the pending claims, Applicant requests that the Examiner telephone Applicant's undersigned attorney.

Respectfully submitted,

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